REMARKS/ARGUMENTS

Claims 1, 4-5, 7-8, 11-15, and 22-24 are pending in the application. Claim 6 has been cancelled. Claims 1, 5, 7, 11, 14, and 24 are currently amended.

Previously presented Claim 6 has been deleted.

Claims 14 and 24 have been amended to delete the phrase "in a case where the heat releasing magnetic coating film contains the black additives".

Claim 1 is currently amended to add the language "and the magnetic coating film further contains from 20 to 40 mass% of an electrically conductive additive; wherein the total content of the electrically conducive additive and the magnetic powder contained in the magnetic coating film is 60% or less". Claim 5 is currently amended to add the language "wherein the total content of the electrically conducive additive and the magnetic powder contained in the magnetic coating film is 60% or less". Claims 7, 11, and 14 are currently amended to add the language "and the magnetic coating film further contains from 20 to 40 mass% of an electrically conductive additive". Support for the amendments is found in the Specification at page 29, line 15, to page 30, line 18; page 75, 2nd full paragraph; and original Claim 5.

No new matter is added.

Applicant appreciates the Examiner's withdrawl of the previous rejections of Claims 1, 4, and 5-6 under 35 U.S.C. 112, 1st ¶. Office Action dated October 6, 2010 (OA, p. 2, ¶ 2). Applicant also appreciates the Examiner's withdrawl of the previous rejections of Claims 1 and 4 under 35 U.S.C. § 102 as anticipated by Hosoe (US 2003/0094076 A1, published May 22, 2003).

Objection to Claim 6

The Examiner objected to the language of Claim 6. Since the upper limit of the contents of the magnetic powder and the total content of magnetic powder and electrically

conductive additive is identical, previously presented Claim 6 is said to optionally exclude the electrically conductive additive, which is contrary to the express language of the claim. The Examiner's objection to Claim 6 should now moot because the claim has been cancelled. Moreover, the upper limit of the magnetic powder content in Applicant's currently amended Claims 1 and 5 is 40 mass%.

Rejections of Claims 14-15 and 24 under 35 U.S.C. § 112, 2nd ¶

Claims 14-15 and 24 were rejected under 35 U.S.C. § 112, 2nd ¶, because the phrase "in a case where the heat releasing magnetic coating film contains the black additives" renders the scope of Claims 14 and 24 vague and indefinite as inconsistent with the claim limitations which appear to require the presence of black additives in the magnetic coating film. Since the objectionable language has been deleted from previously presented Claims 14 and 24, the rejections should now be moot.

Rejections of Claims 1, 4, 7-8 & 11-15 under 35 U.S.C. § 103
over Watase in view of Hosoe, optionally further in view of Nakao

Claims 1, 4, and 7-8 were rejected under 35 U.S.C. § 103 as unpatentable over Watase (KR 2003-0010506, published February 5, 2003) in view of Hosoe (US 2003/0094076 A1 published May 22, 2003)(OA, p. 5, 2nd full ¶). Claims 11-15 were rejected under 35 U.S.C. § 103 over Watase in view of Hosoe and Nakao (U.S. Patent 5,945,218, issued August 31, 1999). In view of the current amendments to Claims 1 and 7, the rejections should be withdrawn.

The Examiner concludes that it would have been obvious "to combine the Watase and Hosoe references towards a heat dissipating resin film(s) having excellent magnetic permeability to further use as magnetic shielding coatings as in the present invention" (OA, p. 5, 2nd full ¶). The problem with the Examiner's conclusion of obviousness based on the teachings of Watase and Hosoe is that the combined prior art teachings would not have led persons having ordinary skill in the art either (1) to substitute or replace the heat dissipation

material in Watase's heat-protective film comprising a heat dissipating material and an electrically conductive material for use in coating electronics devices to protect against deterioration at the high temperatures to which they are subjected with Hosoe's electromagnetic shielding materials, e.g., 20%Fe-80%Ni (permalloy) having excellent electromagnetic wave absorbing properties due to high magnetic permeability and electrical conductivity (Hosoe [0005]); or (2) to add to 20-40% of Watase's electrically conductive material to Hosoe's electromagnetic shielding film comprising electromagnetic shielding materials without including electrically conductive additives.

Watase is interested in dissipating heat from electronic devices and films and coating materials which are useful for dissipating heat from electronic devices and thereby preventing deterioration of electronic devices due to heat. Watase reasonably appears to teach coating a metal sheet on one or both sides with a heat dissipating coating comprising heat dissipating materials (Watase, pp. 20-25). The heat dissipating materials described are selected from titanium dioxide, ceramics, ferric oxide, aluminum oxide, silicon dioxide, etc. (Watase, p. 20, ¶ 8, and p. 24, ¶¶ 6-7) and may be included in the heat dissipating film in amounts from 5-70% (50-70% for titanium oxide and 5-30% for aluminum flake)(Watase, p. 24, ¶ 7).

Watase appears to apply a different coating comprising an electrically conductive filler in amounts from 10-50%, preferably 20-35% (Watase, p. 25, ¶ 9), over the interior heat dissipating film applied as the first coating (Watase, p. 25, ¶¶ 4-10). There appears to be no teaching or suggestion in Watase to combine the heat dissipating materials and the electrically conductive materials in a single coating or film and no teaching whatsoever to replace the heat dissipating materials in Watase's heat dissipating coating with Hosoe's electromagnetic wave shielding permalloy material. In fact, the substitution would appear to the person having ordinary skill in the art to substantially undermine the purposes of Watase's invention.

Moreover, persons having ordinary skill in the art would have had no reason to add Watase's electrically conductive additives to Hosoe's electromagnetic wave shielding film comprising a permalloy for any purpose without detrimentally affecting the primary purpose of the film. Hosoe does not suggest any such addition. Rather, Hosoe suggests that where heat resistance and solvent resistance must be taken into consideration, binders are selected which are most suited for those purposes (Hosoe [0045]). Where fillers are contemplated, they are added to provide color to, or reinforce the strength of, the coating (Hosoe [0051]).

To sustain a rejection for obviousness in view of prior art teachings, the prior art must reasonably suggest the claimed invention to a person having ordinary skill in the art with some reasonable expectation that the claimed subject matter could be successfully made and used without undue experimentation. *In re O'Farrell*, 853 F.2d 894, 903 (Fed. Cir. 1988); *In re Dow Chemical Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988); *Merck & Co., v. Biochraft Laboratories, Inc.*, 874 F. 2d 804, 809 (Fed. Cir.1989). The PTO has the burden of proof to establish the factual basis for its rejections under 35 U.S.C. § 103. *In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984); *In re Warner*, 379 F.2d 1011, 1016 (CCPA 1967). Here, the combined teachings of Watase and Hosoe neither suggest the resin coated metal sheet Applicant claims for any reasonable purpose nor reasonably predict that the combination of magnetic powder and electrically conductive materials in an applied film in amount of at least 20 mass% would improve the electromagnetic wave shielding effect of a film comprising an organic binder and a permalloy.

Moreover, Nagano (U.S. Patent 5,455,116, issued October 3, 1995) teaches that electrically conductive materials, when added to electromagnetic wave shielding films containing electromagnetic wave shielding materials, should only be added in amounts "less than 20 parts by weight" (Nagano, col. 4, ll. 23-53), i.e., in amounts less than 20 mass%. All of Applicant's currently amended claims require the magnetic coating films to contain from

20 to 40 mass% of an electrically conductive additive. There is no suggestion in the art to add amounts of an electrically conductive additive of at least 20 mass% to Hosoe's electromagnetic wave shielding films for any reason. To the contrary, Hosoe is most interested in uniformly dispersing its electromagnetic wave shielding materials throughout it protective films for maximum effect (Hosoe [0008; 0014; 0056; 0069]). Hosoe appears to teach away from adding additional fillers of any kind useful for any other purpose to its electromagnetic wave shielding films because a high density and uniform distribution of the electromagnetic wave shielding metal powder is most important for its primary purpose of shielding electronic devices from electromagnetic radiation (Hosoe [0008]) and the addition of two or more types of metal powders has the drawback of increasing particle size and decreasing the uniformity and density of the electromagnetic wave shielding metal powder in the electromagnetic wave shielding film (Hosoe [0069]). As stated in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007), "[W]hen the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious."

The Examiner's rejections over Watase and Hosoe should be withdrawn.

The Examiner relies on Nakao's description of multilayer films including a layer of white pigment and titanium dioxide to impart metal sheet coated with film containing an electromagnetic wave shielding permalloy powder with high surface gloss, smoothness, chipping resistance, etc. (OA, pp. 11-12 and 14-15). While Watase contemplates the addition of color pigment to its heat dissipating and/or electrically conductive films (Watase, p. 25, ¶ 8), and Hosoe teaches that "a filler may be used in combination and blended for the purpose of providing color to the coat" (Hosoe [0051]), neither Watase nor Hosoe reasonably suggest that a high surface gloss white film or pigment may be applied over an electromagnetic wave shielding permalloy film to provide contrast and/or improved appearance. To the contrary,

Hosoe teaches that added fillers decreases the electromagnetic wave shielding effect of its coating by decreasing the density and uniformity of the electromagnetic wave shielding materials in its protective layer (Hosoe [0008; 0069]). Persons having ordinary skill in the art reasonably would not be inclined to add contrasting white fillers to electromagnetic wave shielding films which would tend to undermine the desired electromagnetic wave shielding effects of its films in any respect.

The Examiner responds (OA, pp. 23-24, bridging ¶):

> [T]he issues discussed in the Watase and Hosoe references are such common issues that artisans of ordinary skill in electronic devices would have been well apprised of the advantages of an invention for use with said devices that provides an enhanced abiliy to exhaust heat away from the said electronic devices while simultaneously providing the device with shielding from external EM radiation, which may harm delicate internal circuitry, and additionally, from protecting other such devices from a source of EM radiation from within the said electronic device. . . . .

The problem with the Examiner's statement is that Hosoe teaches that increased density and uniformity of dispersion of the electromagnetic wave shielding material in the film is very important for increasing the shielding effect {Hosoe [0008; 0069]). Therefore, persons having ordinary skill in the art reasonably would have understood that the addition of heat dissipating materials and/or electrically conductive materials to a film comprising electromagnetic wave shielding materials, especially in amounts of at least 20 mass% as Applicant's current claims all require, would be detrimental to the electromagnetic wave shielding effect Hosoe seeks to improve. Apparently for the same reasons, Nagano limits the amount of electrically conductive material added to its electromagnetic wave shielding film to less than 20 parts by weight (Nagano, col. 4, ll. 30-53).

There reasonably would have been no reason for persons having ordinary skill in the art to increase the amount of electrically conductive material in an electromagnetic wave shielding film to at least 20 mass% and reasonably expect any improvement in the desired

electromagnetic wave shielding effect of the film described in either Hosoe or Nagano. Accordingly, the Examiner's rejections should be withdrawn.

Rejections of Claims 5 and 22-24 under 35 U.S.C. § 103
over Watase in view of Nagano, optionally further in view of Nakao

Claims 5 and 22-24 were rejected under 35 U.S.C. § 103 over Watase in view of Nagano, optionally further in view of Nakao (OA, pp. 5-8, ¶ 10; pp. 15-22, ¶¶ 14-16). The rejections fairly should be withdrawn.

The Examiner finds that Nagano describes an electromagnetic wave reflection-preventing film or layer comprising an electromagnetic wave reflection-preventing material such as soft magnetic ferrite powder and less than 20 parts by weight of an electrically conductive material (OA, p. 6, last two ¶¶). However, the Examiner has not explained why persons having ordinary skill in the art would have sought to replace Watase's heat dissipating material with an electromagnetic wave reflection-preventing material. Hosoe teaches that the density and uniformity of distribution is important to obtain improved electromagnetic wave shielding effects, and significant amounts of heat dissipating materials, electrically conductive metal powders, and other fillers would reduce the density and uniformity of distribution of the electromagnetic wave shielding materials in a film and the desired effects and primary purpose of its film.

Moreover, the Examiner acknowledges Nagano's teaching that less than 20 parts by weight of an electrically conductive material should be included in films comprising the soft magnetic ferrite powder and/or carbon (Nagano, col. 4, ll. 23-53)(OA, p. 6, last ¶). All Applicant's current claims require from 20 to 40 mass% of an electrically conductive additive in the magnetic coating film.

Nevertheless, the Examiner argues that "the instantly claimed amount of 20% and that taught by Nagano . . . are so close to each other" that persons having ordinary skill in the art reasonably would have expected the same or substantially the same properties based on the

"'slight' difference in the ranges" (OA, p. 7, 1st ¶; emphasis added). The Examiner relies upon *In re Woodruff*, 919 F.2d 1575 (Fed. Cir. 1990), or *Titanium Metal Corp. of America v. Banner*, 778 F.2d 775 (Fed. Cir. 1985), as support for the proposition that ranges which are "close enough" are sufficient to support a rejection for obviousness.

The Examiner in this case erred when concluding that close is sufficient to establish a prima facie case of obviousness. The Examiner's error is multiplied by Hosoe's teaching that the density and uniformity of distribution of electromagnetic wave shielding materials in a film must be increased to improve the desired electromagnetic wave shielding effect of the film and Nagano's express teaching that the content of electrically conductive materials in electromagnetic wave shielding films should be less than 20 parts by weight when ferrite, carbon, and/or metal powder is present in the electromagnetic wave shielding film (Nagano, col. 4, ll. 23-53). The Board faced a similar set of facts, rejection, and arguments in its March 28, 2008 *Tanaka Decision* (*Ex parte Susunu Tanaka, et al.*, Appeal 2007-3845, decided March 28, 2008; attached) and reversed the examiner's conclusion of obviousness based thereon. The Board instructed (*Tanaka Decision*, pp. 4-5; emphasis added):

> The Examiner recognizes that JP'740 teaches a steel alloy having 0.5%-.9% C. However, relying on MPEP §2144.05 and *Titanium Metal Corp. of America v. Banner*, 778 F.2d 775 (Fed. Cir. 1985), the Examiner then asserts that the 0.9% C is close enough to the claimed 0.95% carbon that there is prima facie obviousness. However, as discussed above, JP'740 teaches a carbon content which is entirely outside of the claimed range and specifically warns against exceeding the upper limitation of 0.9% C due to the materially different property expected by one of ordinary skill in the art. In other words, contrary to the Examiner's assertion, JP'740 teaches that the inclusion of greater than 0.9% carbon does not expect to produce a steel alloy having *the same properties* as a steel alloy having 0.5% to 0.9% carbon as required by *Titanium Metal Corp. of America*. As such, a person of ordinary skill in the art following the teachings of JP'740 would not have been motivated to utilize steel comprising carbon exceeding the upper limitation of 0.9% in the disclosed method. Therefore, we agree with Appellants that prima facie obviousness has not been established on the present record . . . .

Here also, there is no overlapping range of percentages for the amount of the electrically conductive material allowable in an electromagnetic wave shielding film. In

addition, here Hosoe teaches that the addition of metal oxides would reduce the density and uniformity of distribution of the electromagnetic wave shielding materials in the film and thus reduce the desired electromagnetic wave shielding effect of the film. Furthermore, it would have been unreasonable for persons having ordinary skill in the art to optimize in directions contrary to the express restrictions imposed by Nagano. The prior art provides no motivation or reasonable path leading to Applicant's claimed resin coated metal sheet.

While Watase prefers to add 10-50%, preferably 20-35%, of an electrically conductive material to a heat dissipating film, there is no teaching in Watase that amounts of electrically conductive materials of 20 mass% or more would have any detrimental effect on the heat dissipating effect of its heat dissipating film. To the contrary, Hosoe and Nagano would have taught persons having ordinary skill in the art that adding amounts of electrically conductive materials of 20 mass% or more to electromagnetic wave shielding films is likely to produce a undesirable detrimental effect.

Again, the Examiner relies on Nakao's description of multilayer films including a layer of white pigment and titanium dioxide to impart metal sheet coated with film containing an electromagnetic wave shielding permalloy powder with high surface gloss, smoothness, chipping resistance, etc. (OA, pp. 11-12 and 14-15). While Watase contemplates the addition of color pigment to its heat dissipating and/or electrically conductive films (Watase, p. 25, ¶ 8), neither Watase nor Nagano reasonably suggest that a high surface gloss white film or pigment may be applied over an electromagnetic wave shielding film to provide contrast and/or improved appearance while retaining its primary function. To the contrary, Hosoe teaches that added fillers decreases the electromagnetic wave shielding effect of its coating by decreasing the density and uniformity of the electromagnetic wave shielding materials in its protective layer (Hosoe [0008; 0069]). Persons having ordinary skill in the art reasonably would not be inclined to add contrasting white fillers to electromagnetic wave shielding films

which would tend to undermine the desired electromagnetic wave shielding effects of its films in any respect.

Accordingly, all the Examiner's rejections of Applicant's currently amended claims should be withdrawn.

For the reasons stated herein, Applicant's currently amended claims are patentable over the applied prior art and otherwise in condition for allowance. Thus, early Notice of Allowance is respectfully requested.

Respectfully submitted,

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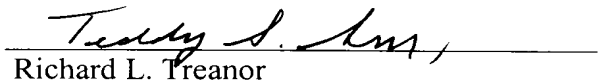

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